A STUDY OF PSYCHOSOCIAL FACTORS ASSOCIATED WITH ADOLESCENT SUICIDE ATTEMPTS

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CERTIFICATE

This is to certify that the dissertation titled **"A Study of Psychosocial Factors Associated With Adolescent Suicide Attempts"** is the bonafide work of **Dr.R.Saravana Jothi,** in part fulfillment of the requirements for M.D(Psychiatry) (Branch – XVIII) examination of **The Tamilnadu Dr. M.G.R Medical University**, to be held in **SEPTEMBER 2006**. The Period of study was from August 2005 to February 2006.

DIRECTOR
Institute of Mental Health,
Chennai-10.

DEAN
Madras Medical College,
Chennai - 3.

DECLARATION

I, **Dr. R.Saravana Jothi,** solemnly declare that dissertation titled **"A Study of Psychosocial Factors Associated With Adolescent Suicide Attempts"** is a bonafide work done by me at Institute of Mental Health, Chennai, during the period from August 2005 to February 2006 under the guidance and supervision of **Dr. M. Murugappan, M.D.,** Professor of Psychiatry, Madras Medical College.

This dissertation is submitted to **The Tamilnadu Dr. M.G.R Medical University**, towards part fulfillment for M.D. Branch – XVIII (Psychiatry),part- III examination**.**

Place : Chennai,

Date : **(Dr. R.Saravana Jothi)**

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CONTENTS

INTRODUCTION

The word `suicide' has its origin in Latin; `sui', of oneself and `credere', to kill: the act of intentionally destroying one's own life. The phenomenon of suicide has at all times attracted the attention of moralists, social investigators, philosophers and scientists. The modern era of the study of suicide began around the turn of the 20th century, with two main threads of investigation, the sociological and the psychological aspects, associated with the names of Emile Durkheim (1858-1917) and Sigmund Freud (1856-1939) respectively. Most sociologic research into suicide has followed the pioneer work of Durkheim, who examined suicide rates in relation to social factors, concluding that the suicide rate in a given population varies according to the degree with which the individuals in that group are integrated and regulated by society. Psychodynamic explanations of suicide have focused on the role of aggression and the consequences to the suicidal individual's inner world of the internalization of frustrating or disappointing objects.

Suicide is one of the most tragic events in human life, causing a great deal of serious psychological distress among the relatives of the victims at the family level, as well as great economic problems for the whole society in a statistical sense. The World Health Organization has declared suicide as one of most important areas of public health and has been facilitating comprehensive strategies for suicide prevention Suicides have recorded an increase from nearly 40,000 in 1980 to 1,10,100 in 1999. (National Crime Records Bureau-NCRB 2000 Government of India). As per the latest reports, nearly 1,00,000 persons committed suicide in India in 1999, with an annual incidence of

11/1,00,000. Several studies undertaken in India have revealed the incidence of suicides to vary from 8 to 43 per 1,00,000 of population.

Clinical descriptive studies of suicide attempters do provide clinicians with important and useful information, which may assist in the identification of at risk persons, thereby enabling appropriate clinical intervention to be implemented. The problem continues to increase in size and the situation has to be monitored regularly in order to detect possible changes in its main characteristics. As *Kreitman* (1977) pointed that psychiatrist is always under an obligation to consider the social, psychological and medical aspects of the phenomenon with which he is concerned, but the value of this triple approach is nowhere illustrated clearly than in the management and study of suicidal behaviour. *Weisman* (1974) reported that for every completed suicide, there are around 30 to 100 attempters and 1 to 10% of those who attempt suicide, commit suicide later in life. *Kotila* and *Lonnquist* (1987) stated that suicide attempt can be considered as a symptom of active adaptation, as an indicator of the fact that one's physical, mental health or social situation is unsatisfactory.

Adolescence is a period of great change. Physical and psychological changes take place. These rapid changes disturb the child emotionally. Research shows that suicidal behaviour increases markedly during this time and the causes are more social and interpersonal conflicts *(Shaffer and Fisher*,1981; *Brooksbank***,** 1985 & *Hawton et al.*, 1982). Adolescent suicide attempters also report more life events preceding the attempt than the general population *(Paykel et al*., 1974). The society today with shrinking family values and a highly stressful situation is a dangerous combination for an adolescent. He often feels alienated and does not know where to turn for help.

There is clearly a need for systematic investigation of adolescent suicide attempts in order to gain information that can assist those providing clinical services for these patients. Given the potentially tragic nature of adolescent suicide attempts and the elevated risk of suicide clustering among adolescents, the identification of adolescents at risk for suicide attempts before their behaviour escalates and becomes more serious would be of obvious value. To increase our understanding of suicide and to improve the management of patients who had attempted suicide, it is necessary to gain a more comprehensive understanding of suicidal attempts.

According to *McClure* (1994), the suicidal behaviour in adolescence is very different from the adult behaviour. Hence it was decided to study the sociodemographic factors, suicidal intent, life events and psychiatric morbidity of adolescent suicide attempters and compare it with the non-suicidal adolescents.

REVIEW OF LITERATURE

Terminology

The term attempted suicide encompasses a wide variety of self destructive behaviour ranging from serious, life threatening acts to relatively minor gestures primarily aimed at attracting attention. This ambiguity about the criteria has led to dissatisfaction with the term, and a number of alternatives have been proposed including deliberate self poisoning and self injury (*Kessel,* (1965)**.** ` In the 1970s, *Kreitman* (1977) **a**nd colleagues introduced the term ‘parasuicide’. 'Parasuicide' referred to a 'non-fatal act in which an individual deliberately causes self injury or ingests a substance in excess of any prescribed or generally recognized therapeutic dose'. The term parasuicide also does not imply that death was the desired outcome. In the late 1970s**,** *Morgan* suggested the term 'deliberate self-harm' (sometimes abbreviated to DSH) to provide a single term covering deliberate self-poisoning and deliberate self-injury.He defined it as a deliberate non-fatal act, whether physical, drug overdosage or poisoning, done in the knowledge that it was potentially harmful and in the case of drug over dosage, that the amount taken was excessive. WHO defined the term as "an act with non-fatal outcome, in which an individual causes self harm or deliberately initiates a non habitual behaviour, that, without intervention by others, will cause self harm or deliberately ingests a substance in excess of the prescribed or generally recognized therapeutic dosage and which is aimed at realizing changes which he/she desired via the actual or expected physical consequence".

Although no single term is perfect, the terms ‘attempted suicide’ and ‘deliberate self-harm’ are widely used now.

Psychological Factors

The first important psychological insight into suicide came from *Sigmund Freud*. In his 1917 paper "Mourning and Melancholia," Freud stated that suicide represented aggression turned inward against an introjected, ambivalently cathected love object. Freud doubted that there would be a suicide without the earlier repressed desire to kill someone else.

Karl Menninger in “Man Against Himself” conceived of suicide as a retroflexed murder, an inverted homicide, as a result of the patient's anger toward another person, which is either turned inward or used as an excuse for punishment. He also described a self-directed death instinct, like Sigmund Freud's concept of thanatos (death). He described three components of hostility in suicide: the wish to kill, the wish to be killed, and the wish to die.

Contemporary suicidologists stress that people most likely to commit suicide are those who have suffered the loss of a love object or have sustained a narcissistic injury, who experience overwhelming moods like rage and guilt, or who identify with a suicide victim.

Social Factors

Emile Durkheim was the first to examine the social and cultural factors influencing the risk of suicide and said “the suicide rate varies inversely with the integration of social groups of which the individual forms a part”. He described two main types, egoistic suicide and anomic suicide.

In ‘egoistic’ suicide, the individual is insufficiently integrated into society. He lacks meaningful family ties or social interactions. He is cut off from supportive significant others in the society.

Anomic suicide occurs when the relationship between an individual and society is broken by social or economic adversity, for example, during a war. Balance of person’s integration into society is suddenly disturbed, leaving the person without his customary norms of behaviour.

The other two types described are altruistic and fatalistic suicide.

Altruistic suicide results from excessive integration in society, with insufficient individuation. Fatalistic suicide occurs when rules and regulations excessively regulate the individual.

Adolescence

Adolescence refers to the long transitional developmental period between childhood and adulthood and to a maturational developmental process involving major physical, psychological, cognitive, and social transformations. It is a period of dramatic and multiple changes. Adolescence is a time of awareness of personal identity and individual characteristics. At this age, young people become self-aware, are concerned to know how they are, and begin to consider where they want to go in life. They can look ahead, consider alternatives for the future, and feel hope and despair. It is the time when they reach out to society, tentatively at first and then confidently. Relationship with same sex and opposite sex grows. It is also a time of many disappointments. The common adolescent complaint is – ‘no one understands me’. Erickson

proposed the "Identity versus Role Diffusion" stage for adolescents. Adolescents in this stage struggle to determine who they are and who they want to become. At the same time, they experience major physical changes. They also develop adult like sexual interest.

Adolescence And Attempted Suicide

Barter et al. (1968) had called attention to the fact that children and adolescent suicide attempts are under diagnosed. Attempted suicide increases markedly during adolescence (*Shaffer & Fisher*, 1981 & *Brooksbank*, 1985**).** It is more common among girls, except at younger ages. The most common method is drug over dosage, which is usually not dangerous, though occasionally life-threatening. Death can occur by 'mistake', that is, what the patient thought as a relatively safe method may become fatal. Dangerous methods of self-injury are more frequent amongst boys.

Adolescents typically cope with this struggle towards identity by turning to peers, popular heroes and causes. This modeling makes the adolescents more prone to 'cluster suicides' and 'copy cat suicide' phenomenon. For most children and adolescents, the outcome of attempted suicide is relatively good.

Few adolescents with histories of broken homes, family psychiatric disorders, and child abuse repeat the attempts, which may end fatally. It is often precipitated by social problems such as difficulties with parents, boyfriends, or schoolwork. There is a significant risk of suicide amongst adolescent boys (*Hawton* 1982**).**

Physical illness is also a precipitating cause for suicide attempts **(***Rao.V,* 1965). 50% of adolescent overdosers had visited the family doctor in the previous month, and 24% in the previous week (*Hawton et al.*, 1982**).**

Potential risk factors for suicide attempts in adolescents include female gender, psychopathology especially a major depressive disorder, previous suicide attempts, hopelessness, recent stressful life events, suicide attempt by family members or friends family chronic physical illness, family violence and dysfunction and lower academic achievement **(***Lewinsohn et al., 1994).*

Age

It has been found across various studies that the incidence of attempted suicide is greatest in young adults (*Morgan et al.* 1976, *Holding et al.,* 1977). Adolescent suicide attempters are increasing in number in most of the countries (*Hawton et al.* 1982; *Brooksbank,* 1985**)..** It is estimated that approximately 8% to 10% of adolescents report a suicide attempt at least once in their life time (*Pfeffer CR*). The ratio of attempted suicide to suicide in adolescents has been estimated to be 50:1 (*Andrus et al.,* 1991).

Sex

Studies done by *Garfinkel B.D.et al.,* (1982)*, Otto* (1972)**,** L. *Kotila et al.,* (1987) and *Olfson* et al (2005), reported higher percentage of adolescent females among the suicide attempters. *Hawton* et al., 1982 reported 9:1 female to male ratio. Indian studies by *Sudhir kumar* et al., 2000 reported equal number of males and females.

Educational Status

Level of educational achievement was addressed in a few studies and its impact on suicidal behavior needs assessment**.** *Bille Brahe et al.,* (1985) had stated that, in his study there was no significant difference between the attempters and normal population with regard to schooling, although somewhat fewer of the attempters had attained a higher level of schooling like matriculation or its equivalent. 46% had 7 years or less of general education.

Nordentoft & Rubin (1993) also had made a similar observation that there is no difference between attempters and general population in educational levels. *Latha et al.,*(1996) reported that approximately 46% had not received a high school education, 37% had attended high school and 17% had received some university education in their study population.

Marital Status

Studies from different countries have tried to identify the trends in marital status of people who attempt suicide. Only 43% of those interviewed were married or had a steady cohabitant (*Bille Brahe* et al., 1985). Almost 20% of the men and 15% of the women were divorced. Significantly more unmarried and formerly married persons were found among the male and female attempters than in the corresponding age groups in the normal population. Similar proportions of single, married and cohabiting categories existed in the sample assessed by *Pablo & Lamarre* (1986) (30.3%, 29.2% 27% respectively). Examination of marital status of attempted suicide subjects by *Bland* (1994) showed a preponderance of single 57.8%, with 26.3% married.

Unmarried patients predominated in the Indian studies by *Ponnudurai* et al., (1986), *Ghulam et al.,* (1995) and *Latha et al.,* (1996).

Type of family

Rao.V (1965) had reported that only very few patients in his sample were from joint families which made the author infer that lack of social cohesion, the break up of joint family system favour suicide attempts**.** *Latha et al,* (1996) reported 61% of the male suicide attempters were from nuclear families and rest were from extended families. None of the patients were living alone in hostels**.**

Family history of psychiatric disorder, suicide and attempted suicide

Family history of suicide was present in 14% in the sample described by *Murphy & Wetzel* (1982). 24% had family history of attempted suicide. In the study done by *Rao.V* (1965) 20% of the cases had family history of psychiatric disorder**.** Roy (1983) had made an important observation that family history of suicide was associated with violent suicide attempts in patients with depressive disorder**.**

Brent DA et al, (1996), reported that liability to suicidal behaviour might be familially transmitted as a trait. Family history of both depression and substance abuse and life time history of parent - child discord were most closely associated with adolescent suicide(*Brent DA et al.,* (1994). *Pfeffer CR et a1* (*1998*) reported family discord, suicide attempts of mother, and substance abuse of mothers and fathers were significantly more prevalent among adolescents with life time history of a suicide attempt.

Method Of Attempt

Methods by which people attempt suicide differ from country to country and culture to culture. Availability of the `method' seems to be a major determinant. Self-poisoning is reported to be the most frequent method of attempting suicide accounting for 70% to 90% of all attempts as observed by *Pablo & Lamarre*(1986). 79% of all the attempts in the study consisted of self-poisoning through a drug over dose. This method prevailed over that of slashing (11.2%), carbon monoxide poisoning (3.4%) and other methods such as strangulation, hanging or drowning. Self poisoning through the use of medically prescribed drug was a major occurrence for 75% of the cases .

Ponnudurai et al. (1986) reported that 31.4% had used organophosphorus compounds, 16.28% - sleeping tablet, 15.12% - copper sulphate, 8.4% - burning and 8.14% oleander seeds.. *Latha et al* (1996) observed a similar trend and pointed out that violent methods such as drowning, hanging, jumping from a height and strangulation are rare. Self-poisoning is far more frequent than self-injury. Between 80 to 90% of adolescents who are referred to the hospital after attempted suicide had taken overdose(*Shaffer,1974).*

Repeat suicide attempts

According to *Hawton et a.l (1982),* the proportion of adolescents who repeat their attempt is approximately 14%. The risk of death increases when there are more suicide attempts (*Barncroft J et al., 1977*). According to *Hawton et al* (*1982*) the risk factors include chronic emotional problems and behavioral disturbances, social isolation problems connected with home, school and poor physical and mental health. *Dorpat et al. (1965)* have reported that adolescents

making suicide attempts often have separated parents. Adolescents committing suicides come from families where one of the parents is dead**.** *L.Kotila et al.* (*1987*) reported that family background of adolescents who made repeat suicide attempt was significantly poor, they had more psychiatric morbidity, a weaker psychosocial level of functioning and more emotional difficulties.

Communication of intent and advice/help seeking before attempt

Communication of intent verbally is highly characteristic of the person who commits suicide. *Hawton et al., (1982*) described that almost 50% of the patients had contacted a helping agency before the suicide attempt in his study. In a study by *Stenager & Jesen,* (1994), which describes suicide attempter's approach to the health and social welfare authorities prior to a suicide attempt, it was found that one-fourth of the patients seeking help requested therapeutic consultation and only a few asked for drug treatment.

Suicide notes

As unsolicited accounts of the concerns of individual preparing to end their lives, suicide notes are potentially valuable sources of information about the psychological states of the suicidal patients**.** *Yessler et al***.,** (1960) reported in his study that 87% of the subjects had left suicidal notes and were found positively related to seriousness of the suicidal attempt.

Precipitating Factor

Attempted suicide has acquired the popular image of a 'cry for help' *(Stengel and Cook, 1958*). In a study, 50 adolescent self-poisoners were asked to account for their overdoses by choosing from a prepared list of reasons

(Hawton, 1982). The most frequently selected reasons suggested that they viewed the overdoses as a means of gaining relief from a stressful state of mind or situation and as a way of showing other people how desperate they were. They also suggested that the adolescents took over-dosage in order to get back at other people or to change their behaviour. This is in keeping with an earlier suggestion that the appeal function of overdose by adolescents is interpersonal rather than directed to an outside helping agency (*White, 1974*). The adolescents in the study by *Hawton et al. (1982*) rarely appeared to be concerned with getting help from some one. This may partly explain why compliance with treatment can be poor (*White, 1974* **).** *Hawton (1982*) found that one third of adolescent attempting suicide said they wanted to die. In other words, only one third of adolescents had a high intent to die.

Most frequent precipitants were rows, which commonly precede self-poisoning in adults (*Boncroft et al., 1977*). Similarly majority of adolescents reported difficulties in their relationship with parents. Problems of communication, especially with fathers, were notable. Problems with parents were in many cases long-standing and showed little improvement in follow up. Problems surrounding a relationship with boy friend or girl friend were also common but tended to be transient *(L.Kotila and J. Lonn Quist (1987)*.

Most common motive for an adolescent to make a suicide attempt is a desire to escape from a deadlock life situation. The most common feelings preceding a suicide attempt are loneliness and abandonment. Self-accusing feelings of failing in life, which are typical of grown-up persons, are almost non-existent *(L.Kotila and J. Lonn Quist (1987)).*

DeWilde EJ et al. (1993), reported adolescent attempters had to deal with greater turmoil in their families, rooted in childhood and not stabilizing during adolescence, in combination with traumatic events during adolescence and social instability in the year preceding the attempt.

Psychiatric disorders

Adolescents can be reliable reporters of their suicide potential and the clinician needs to be sensitive to symptoms of major depressive disorder in assessing potentially suicidal adolescent (*Robbin DR et al, 1985).* Adolescents who attempted suicide were 7 times more likely to have mood disorder ***(****Pfeffer CR et al, 1993)*, *Marttunnen et al, 1991,* reported strong relatedness between adolescent suicide, depression, antisocial behaviour and alcohol abuse.

Robbins and *Alessi, 1985* studied aspects of major depressive disorder associated with suicidal behaviour**.** His study of 64 adolescent psychiatric inpatients showed that suicide ideation or acts were significantly associated with severity of depressed mood, intensity of negative self evaluation, increased level of hopelessness, poor concentration and high levels of anhedonia. Suicide among adolescents who had a history of psychiatric hospitalization occurs approximately nine times more often than among adolescents in the community (*Kuperman et al**.,** 1988).*

More than 70% reported suicide ideation or attempts among adolescent psychiatric out patients with a diagnosis of major depressive disorder *(Myers et al., 1991**)**.* Presence of Major depressive disorder imported an almost 10 times greater risk of suicide attempt. ***(****Garrison et al., 1991**)**. Kovacs M et al. (1993)*, reported that major depressive disorder and dysthymic disorders were

associated with significantly higher rates of suicidal behaviour and in the presence of affective disorder, co morbid conduct or substance use disorders further increased the risk of suicide attempts.

Pfeffer et al. (1988) studied 200 adolescent psychiatric inpatients and found correlations of mood disorders and alcohol abuse disorder with suicidal acts. He also identified that boys who had history of alcohol abuse reported to have made a recent suicide attempt. In girls history of mood disorder, alcohol abuse and aggressive behaviour had made a recent suicide attempt. *Wup etal (2004)* reported that adolescent suicide attempts were strongly associated with alcohol abuse and dependence. The association remained significant even after controlling for depression.

Life events and adolescent suicide attempt

Schaffer (1974) found that of those who committed suicide and left notes, 35% said they had recently been in trouble.

Compared with the general population, people with attempted suicide, experience four times as many stressful life problems in the six months before the act, with more of these events considered to be undesirable than in the control groups *(Paykel et al., 1974).*

Recent life event are significant in adolescent attempters as in adults. *Cohen et al1982***.,** in a comparison between adolescent suicide attempters, depressed non-suicidal individual and non-depressed psychiatric controls, demonstrated more life events in suicidal group for a period 12 months preceding hospital admission. Further more, earlier in their lives the suicide

attempters had experienced increasing and significantly greater amounts of stress, as they had matured through various developmental stages *(Hawton .K 1982.)* Broken homes are common among adolescent self-poisoners than adolescents in the general population (*Hawton et al., 1982*). Suicidal attempts most commonly follow quarrels with parents or boy/girl friend *(White, 1974 & Hawton et al., 1982).* Long-standing difficulties with parents are reported and poor communication and a strained relationship with the father are particularly noted in some studies

People are at a greater risk for suicidal behaviour when they experience elevated levels of stress. The stressors can be categorized according to their type (for example, discrete events versus chronic strains and source (for example family or friends) both discrete stressors and chronic strains are related to an increasing severity of suicidal ideation(*Adams et al., 1994)*

Stressful life events are often outside the person's control. Certain events like exit events play a powerful role, and they often precede a suicide attempt *(Sudhir Kumar & Chandrasekaran,2000).* Life events seem to play a key role in those who complete suicide and also in attempted suicide. *Mc Keown RE et al (1998),* reported stressors in adolescent development play a important role in suicidal behavior. *Fergusson DM et al (2000)* reported that adolescents with greatest risk of suicidal behaviour have family environment characterized by socio-economic adversity, marital disruption, poor parent child attachment, exposure to sexual abuse and exposure to stressful life events.

Marttunen MJ et al (1993) reported that precipitant stressors were common in adolescent suicides. In 70% of cases stressors were reported in preceding one month. Interpersonal separation and conflicts were the most common one.

Suicide intent

Suicide intent was conceptualized in terms of the relative weight of the persons wish to live and his/her wish to die. **Psychological deterrents against yielding to suicidal wishes** and the **degree to which he/she had transformed his/her suicidal wishes it into a concrete plan or actual act oriented to death** Suicidal intent has been closely associated with hopelessness *(Beck et al, 1975).* A high correlation was obtained between a diagnosis of major depressive disorder and the suicide intent. There was a high correlation between depression scores and intent scores

Ascertaining the meaning, intent and precipitants of adolescent suicidal behaviour is a tricky business. As the concept of death develops only around 12 years of age, it is difficult to determine the motivation of self-harm in young children. It is probable that only a few of the younger children have any serious suicidal intent. Possibly their motivation is more often to communicate distress, to escape from stress, or to manipulate other people.

In a study by *White (1974),* the intent of self-poisoning was very vague. The patients expressed that 'it just came over for me'. There was a general lack of planning for the overdose, most patients having the poison/drug immediately available or acquiring it on the day of ingestion. Most overdoses by children and adolescents are taken very impulsively, sometimes with little more than a

few minutes forethought. Usually both suicide intent and risk to life appear to be low, especially as the overdoses are often taken with someone close by *(Hawton et al, 1982).* At the same time, when violent modes, like hanging, shooting are employed, particularly by males, the suicidal intent is high (*Otto, 1972).*

The adolescent has a sense of personal immortality no matter what his stated concepts are, because his own death is so remote in time, he enjoys the invincibility of youth. *Hawton et al., (1982*) showed that 'Wish to die' was not ranked as an important factor for adolescent suicidal attempters

Evaluation of the suicidal intent is the keystone in the assessment of an adolescent attempted suicide**.**There may be risk of death even when intent was low, death by 'mistake'. High suicidal intent is considered to be a risk factor for future suicide attempt.

Hopelessness and its relation to suicide intent

Hopelessness has been identified as one of the core characteristics of depression by *Beck (1963).* It can be defined in terms of a system of negative expectancies concerning himself and his future. The main thrust of Beck's argument is that the suicidal behavior of the depressed patient is derived from specific cognitive distortions. The patient systematically misconstrues his experiences in a negative way and without objective basis anticipates a negative outcome to any attempts to attain his major objectives or goals. Thus the hopelessness was conceptualized in terms of a system of cognitive schemata that share the common element of negative expectations. *Minkoff et al.,(1973*) found that hopelessness was a more sensitive indicator of suicidal intent than

depression. This study also demonstrated that the relationship between depression and suicidal intent was based on their joint attachment to a moderator variable hopelessness.

The features of high hopelessness group were anxious and depressed, had a strong wish to die, made a planned attempt, act was done for relief from mental state, motivated for help and sought help. The relationship between suicide intent and depression were studied by *Salter & Platt (1990)* and it was confirmed that hopelessness is the factor which accounts for this relation. Even in low risk patients hopelessness was found to be the link between depression and suicide attempt by *Schlebusch and Wessels (1988). Beck et al (1975)* describes that not only affective, but motivational and cognitive aspects are also represented in hopelessness. Between the event and the associated depression, hopelessness is believed to play an important role in the manifestation of suicidal behavior.

The relationship between hopelessness and suicide attempts in the elderly was studied by *Rifai et al., (1994).* patients who had made a suicide attempt had significantly higher hopelessness scores than non-attempters. They were more likely to drop out of treatment and a high degree of hopelessness persisting after remission of depression and is associated with a history of suicidal behavior. It may also increase the likelihood of premature discontinuation of treatment and lead to future suicide attempts or suicide.

Certain researchers had found a relationship between suicide attempt, hopelessness and certain other factors like alcoholism and unemployment**.** *Platt & Dyer (1987)* had proposed that hopelessness may be a key social-psychological variable for inclusion in any model of the pathways which link unemployment

with the attempted suicide. *Whitters et al., (1985)* confirmed that hopelessness is an important psychopathological state which is predictive of suicide attempt and alcoholism. *Dori GA et al (1999),* stated that suicidal adolescents had significantly greater depression and hopelessness than the non suicidal adolescents. Treatment of suicidal adolescents could benefit from strategies that focus on reducing feelings of depression and hopelessness.

Much research has been done on the relationship between suicidal intent and hopelessness & depression, *(Dyer and Kreitman1984).* A positive relationship is found between hopelessness and suicidal intent. No relationship, by itself (when the effect of hopelessness was removed), was found between suicidal intent and depression (*Wetzel et al., 1980).*

AIM

1. To study the psychosocial factors associated with adolescent suicide attempts.

2. To identify the risk factors associated with adolescent suicide attempt with reference to sociodemographic characteristics, stressful life events and psychiatric morbidity.

HYPOTHESES

1. There is no association between low socioeconomic status and adolescent suicide attempt.

2. There is no association between living in nuclear family and adolescent suicide attempt

3. There is no association between previous history of mental illness and adolescent suicide attempt

4. There is no association between history of substance abuse and adolescent suicide attempt

5. There is no association between family history of mental illness and adolescent suicide attempt .

6. There is no association between family history of substance abuse and adolescent suicide attempt .

7. There is no association between family history of suicide , attempted suicide and adolescent suicide attempt

8. There is no association between psychiatric morbidity and adolescent suicide attempt

9. There is no association between stressful life events and adolescent suicide attempt

10. There is no association between hopelessness and adolescent suicide attempt

11. There is no association between stressful life events and suicide intent of adolescent suicide attempters

12. There is no association between psychiatric morbidity and suicide intent of adolescent suicide attempters

13. There is no association between hopelessness and suicide intent of adolescent suicide attempters

MATERIALS AND METHODS

SETTING

Study was conducted in Government General Hospital, Chennai, from October 2005 to February 2006. Cases were recruited from medical and surgical wards of Government General Hospital, Chennai, who were adolescent suicide attempters. Controls were selected among relatives and friends of patients admitted in medical and surgical wards for other illness.The study was approved by the ethics committee of the Institution.

Sample

Fifty consecutive cases of adolescent suicide attempters and Fifty age and sex matched controls were selected for study.

Study Design Case control study

CASES

Inclusion Criteria

1. Patients admitted for treatment of attempted suicide of age between 13 to 18 yr.
2. Whose physical condition was stable and could undergo detailed assessment.

Exclusion Criteria

1. Presence of disorientation and confusion interfering with administration of rating scale.
2. Patients without a reliable informant

CONTROLS

Inclusion Criteria

An equal number of controls "who had never made a suicide attempt", individually matched for each case with respect to age and sex were recruited from relatives and friends of other patients admitted for other illnesses during the same period in Government General Hospital, Chennai.

Exclusion Criteria

Persons not willing to participate in the study.

INTERVIEW

Patients were assessed once their medical /surgical condition remained stable.The assessment was done within two days of recovery. The nature of the study was explained to the patient and the key relative and a written informed consent was obtained from the patient. Assessment was completed in two days in two or three sessions, each consisting of forty-five minutes to one hour The patients were interviewed alone or together as and when required. The assessment was completed in all patients recruited for the study.

Controls were recruited from medical and surgical wards. Nature of the study was explained to them. Usually the assessment was completed in a single session for about one hour..

INSTRUMENTS USED

1. Semistructured proforma
2. ICD-10:Classification of Mental and Behavioural disorders (WHO 1992) Clinical descriptions and diagnostic guidelines
3. Suicide Intent Scale (Beck etal,1979).
4. Presumptive stressful life events scale (PSLES), (Gurmeet Singh *et al.,* 1983).
5. Hopelessness scale (HS) (Beck et al., 1974)
6. Montgomery Asberg Depression rating scale (MADRS) (Montgomery & Asberg, 1979)
7. Socio Economic Status Scale (SES) (S. E. Gupta & B. P. Sethi (1978)

1. Semistructured Proforma

The proforma used was prepared in Institute of Mental Health for the purpose of this research work. Socio demographic details, family history, medical and psychiatric history were included in the first part. Second part consists of various details of the present attempt and previous attempts, if any. (Appendix I)

2. ICD-10:Classification of Mental and Behavioural disorders (WHO 1992) Clinical descriptions and diagnostic guidelines

WHO in 1992 published ICD – 10. It contains codes for all diseases, arranged in chapters. Chapter V contains codes for mental illness. It is coded

with the alphabet F. ICD aims at international communication in diagnosis and reliability. Based on clinical assesment,diagnosis was made according to ICD-10 and confirmed by consultant. .

3. Suicide Intent Scale (Beck etal,1979).

Beck developed this scale to measure the degree of suicidal intent of an attempt. This scale has 15 questions and has two parts. The first one covers the circumstances, action, etc and the second half a self-report about the belief of the patient regarding his actions.

Suicidal intent is being taken as the measure of seriousness of the attempt – 'the wish to die'.Suicide intent was assessed in cases only. (Appendix II)

4. Presumptive stressful life events scale (PSLES), Gurmeet Singh *et al.*, 1983

Presumptive stressful life events scale (PSLES) is a scale of stressful life events designed for use in Indian population. The scale was revised based on Holmes & Rahe's Social Readjustment Rating Schedule (SRRS), because many items in the (SRRS) were found to be not applicable to Indian population.

The scale consists of 51 items. Each event is given a mean stress score that varies from 20 to 95. The events may further be divided into desirable, undesirable and ambiguous. The scale was administered for events of previous one year. More than 2 life events in the past one year is significant. The scale is simple to use and can be administered to both, literate and illiterate people. (Appendix III)

5. Hopelessness scale (HS) (Beck et al., 1974)

Two sources were utilized in selecting items for this twenty-item, true/ false, hopelessness scale. Nine items were selected from a test of attitudes about the future and remaining eleven items were drawn from a pool of pessimistic statements made by psychiatric patients who were adjudged by clinicians to appear hopeless. Those statement were selected which seemed to reflect different facets of the spectrum of negative attitudes. Eleven statements were keyed true and nine were keyed false. Factor analysis revealed three factors which made sense clinically namely affective, motivational and cognitive. (Appendix IV)

6. Montgomery Asberg Depression rating scale (MADRS) (Montgomery & Asberg, 1979)

A widely used scale in which the most important symptoms of depressive disorder are included. Because all of the items are core features of depression it has high face validity. In addition, its validity has been demonstrated by its correlation with Hamilton Depression Rating Scale. There are 10 items in this scale, namely (1) Apparent sadness, (2) Reported sadness, (3) Inner tension, (4) Reduced sleep, (5) Reduced appetite, (6) Concentration difficulties, (7) Lassitude, (8) Inability to feel, (9) Pessimistic thoughts and (10) Suicidal thoughts. Maximum obtainable score in this scale is 60.

This scale was administered to cases and not controls, as depression was rated in suicide attempters so as to correlate it with suicide intent and to find among hopelessness and depression which correlated significantly with suicidal intent. (Appendix V).

7. Socio Economic Status Scale (SES) for urban population. (S. E. Gupta & B. P. Sethi (1978)

Socio Economic Status scale consists of scores on 3 variables (education, occupation & income). The three variables are clearly defined and appropriate scores mentioned. The scale consists of 10 categories of socio economic status, ranging from the highest to the lowest, which is got by adding up the scores of the three variables. The categories are grouped into 5 social classes viz. very high, upper middle, middle, lower middle and very low. The inter rater reliability is found to be high This scale incorporates guidelines to score children, dependent persons as well as non-dependent persons, married and unmarried subjects. It is very easy to administer to both literate and illiterate populations. (Appendix VI)

Statistical Methods

The Statistical Package for Social Sciences (SPSS) was used for data analysis. The chi-square and t-test were applied for univariate analysis. Simple correlation and partial correlation analyses were done to measure the relationship between continuous variables.

RESULTS

TABLE 1

AGEWISE DISTRIBUTION OF SUICIDE ATTEMPTERS

Age	Cases (n=50)
14	2 (4.%)
15	4 (8.%)
16	4 (8.%)
17	8 (16.%)
18	32 (64.%)

Majority of the suicide attempters were 18 years old.

TABLE 2

SEX DISTRIBUTION AMONG CASES AND CONTROLS

SEX	TYPE			
	Cases (n==50)		Controls (n=50)	
Female	35	70%	35	70%
Male	15	30%	15	30%

Among suicide attempters majority 70% were females while 30% were males

TABLE 3

AGE AND SEX DISTRIBUTION OF SUICIDE ATTEMPTERS WHEN STUDIED AS TWO GROUPS- ABOVE AND BELOW 16 YEARS

Age	SEX			
	Female		Male	
< 16	4	11.4%	2	13.3%
≥ 16	31	88.6%	13	86.7%
Total	35	100.0%	15	100.0%

Majority of the attempters were females. Among the 35 females who attempted suicide, 31 (88.6%) were 16 years and above, while 13 (86.7%) out of 15 male suicide attempters were 16 years and above.

As age and sex matched controls were taken there were no difference between these two groups

TABLE 4

COMPARISON OF DOMICILE BETWEEN CASES AND CONTROLS

Location	Cases (n=50)		Controls (n=50)	
Rural	6	(12%)	9	(18%)
Urban	44	(88%)	41	(82%)

χ^2=0.76 df=1 p=0.577 (not significant)

Majority of suicide attempters ,88% were from urban area and12% were from rural area. Among controls 18% were from rural area and 82% were from urban area. The difference between the two groups was not significant.

TABLE 5

COMPARISON OF EDUCATION LEVEL BETWEEN CASES AND CONTROLS

Education	**Cases (n=50)**		**Controls (n=50)**	
Primary	6	(12%)	2	(4%)
Middle	10	(20%)	14	(28%)
High School	33	(66%)	27	(54%)
Degree	1	(2%)	7	(14%)

χ^2=7.76 df = 3 p=0.051 (not significant)

Among cases 66% had high school, 20% had middle school, 12% had primary education, and 1 (2%) was studying degree. Among controls 54% had high school, 28% middle school, 4% had primary school education and 14% were studying degree. The difference between the two groups was not statistically significant.

TABLE 6

COMPARISON OF OCCUPATION BETWEEN CASES AND CONTROLS

Occupation	**Cases (n=50)**		**Controls (n=50)**	
Student	20	(40%)	17	(34%)
Unskilled worker	18	(36%)	20	(40%)
Semiskilled worker	5	(10%)	5	(10%)
Skilled worker	0	0	4	(8%)
Housewife	4	(8%)	2	(4%)
Not working	3	(6%)	2	(4%)

χ^2=5.215 df = 5 p= 0.390 (not significant)

Among cases the students were 20(40%), unskilled workers 18(36%), Semiskilled workers 5(10%), Housewife were 4(8%) while 3(6%) were not working. Among controls 20(40%) were unskilled workers , 17(34%) students, 5(10%) were semiskilled workers, 4(8%) were skilled workers, 2(4%) were housewives and 2(4%) were not working. There was no statistical difference between two groups.

TABLE - 7

COMPARISON OF SOCIO ECONOMIC STATUS BETWEEN CASES AND CONTROLS

Socio economic status	Cases (n=50)		Controls (n=50)	
Very low	3	(6%)	7	(14%)
Lower middle	44	(88%)	35	(70%)
Middle	3	(6%)	8	(16%)

χ^2=4.898 df = 2 p=0.086 (not significant)

44(88%) of the cases belonged to lower middle class, 3(6%) belonged to very low and 3(6%) belong to middle class. Among the Controls 35(70%) belonged to lower middle socioeconomic section 7(14%) to very low socio-economic section and 8(16%) to middle socio-economic section. The difference between the two groups was not statistically significant.

TABLE - 8

COMPARISON OF MARITAL STATUS BETWEEN CASES AND CONTROLS

Marital status	Cases (n=50)		Controls (n=50)	
Single	40	(80%)	43	(86%)
Married	10	(20%)	7	(14%)

χ^2=0.638 df=1 p=0.595(not significant)

Among cases 40(80%) were unmarried and 10(20%) were married. Among controls 43(86%) were unmarried 7(14%) were married. There is no statistical difference between groups.

TABLE – 9

COMPARISON OF FAMILY TYPE BETWEEN CASES AND CONTROLS

Living arrangements	Cases (n=50)		Controls (n=50)	
Alone	1	(2%)	0	0
Joint family	13	(26%)	16	(32%)
Nuclear family	36	(72%)	34	(68%)

χ^2=1.367 df= 2 p=0.505(not significant)

Among cases 36(72%) were from nuclear family, 13 (26%) from joint family. 1(2%) person was living along in her work spot. Among controls 34(68%) lived in nuclear family and 16(32%) lived in joint family. The difference between the two groups was not statistically significant.

TABLE - 10

COMPARISON OF PREVIOUS HISTORY OF MENTAL ILLNESS BETWEEN CASES AND CONTROLS

Mental illness	Cases(n=50)		Controls(n=50)	
Absent	48	(96%)	50	(100%)
Present	2	(4%)	0	0

χ^2=2.041 df = 1 p=0.495 (not significant)

Among cases, 4% had previous history of mental illness, while none had previous history of mental illness among controls. The difference between the two groups was not statistically significant.

TABLE - 11

COMPARISON OF HISTORY OF MEDICAL ILLNESS BETWEEN CASES AND CONTROLS

Medical illness	Cases(n=50)		Controls(n=50)	
Absent	44	(88%)	48	(96%)
Present	6	(12%)	2	(4%)

χ^2=2.174 df=1 p=0.269 (not significant)

History of medical illness was present among 12% of cases and 4% of controls. The difference was not statistically significant.

TABLE - 12

COMPARISON OF HISTORY OF SUBSTANCE ABUSE BETWEEN CASES AND CONTROLS

Substance abuse	Cases(n=50)		Controls(n=50)	
Absent	48	(96%)	49	(98%)
Present	2	(4%)	1	(2%)

χ^2=0 .344 df=1 p=0.962 (not significant)

History substance abuse among cases was 4% and among controls was 2%. The difference between the two groups was not statistically significant.

TABLE - 13

COMPARISON OF FAMILY HISTORY OF MENTAL ILLNESS BETWEEN CASES AND CONTROLS

Family mental illness	Cases(n=50)		Controls(n=50)	
Absent	46	(92%)	47	(94%)
Present	4	(8%)	3	(6%)

χ^2 =0 .154 df = 1 p= 0.1 (not significant)

Among cases, 8% had family history of mental illness while among controls 6% had family history of mental illness . The difference between the two groups was not statistically significant.

TABLE - 14

COMPARISON OF FAMILY HISTORY OF SUBSTANCE ABUSE BETWEEN CASES AND CONTROLS

Family substance abuse	Cases(n=50)		Controls(n=50)	
Absent	29	(58%)	33	(66%)
Present	21	(42%)	17	(34%)

χ^2=0.679 df= 1 p=0.537) (not significant)

Among cases 42%, had family history of substance abuse, among controls 34% had family history of substance abuse. The difference between the two groups was not statistically significant.

TABLE – 15

COMPARISON OF FAMILY HISTORY OF ATTEMPTED SUICIDE BETWEEN CASES AND CONTROLS

Family attempted suicide	Cases(n=50)		Controls(n=50)	
Absent	42	(84%)	47	(94%)
Present	8	(16%)	3	(6%)

χ^2=2.554 df=1 p=0.2 (not significant)

Among cases family history of attempted suicide was present in 16%, while that among controls was 6%. The difference between the two groups was not statistically significant.

TABLE – 16

COMPARISON OF FAMILY HISTORY OF SUICIDE BETWEEN CASES AND CONTROLS

Family suicide	Cases(n=50)		Controls(n=50)	
Absent	50	(100%)	46	(92%)
Present	0	0	4	(8%)

χ^2=4.167 df 1 p=0.117(not significant)

Among cases, none had family history of suicide while 8% of controls had family history of suicide. The difference between the two groups was not statistically significant.

There was no statistically significant difference between the cases and control group in domicile, education level, occupation, Socioeconomic status, marital status, family type, history of previous mental illness, medical illness, substance abuse, family history of mental illness, family history of substance abuse, family history of attempted suicide and family history of suicide.

TABLE - 17

METHOD USED BY SUICIDE ATTEMPTERS

Method used	Cases (n=50)	Percent
Poisoning	47	94%
Hanging	3	6%

Majority 94% used self poisoning as the method to commit suicide while 6% used hanging to commit suicide.

TABLE NO -18

SUBSTANCE USED BY SELF POISONERS AMONG SUICIDE ATTEMPTERS

S.no	Substance used	Cases N= 47
1	Tablet overdose	11 (23.4%)
2	Rat killer poisoning	9 (19.1%)
3	Oleander poisoning	6 (12.7%)
4	Organophosphorous poisoning	4 (8.5%)
5	Ala liquid	3 (6.5%)
6	Insecticides	3 (6.5%)
7	Glass pieces	2 (4.25%)
8	Hit spray	2 (4.25%)
9	Kerosene	2 (4.25%)
10	Painting liquid	2 (4.25%)
11	Phenol	1 (2.13%)
12	Oduvanthalai	1 (2.13%)
13	Cockroach killer poison	1 (2.13%)

Tablet overdose was used by 23.4% of attempters, rat killer poison by 19.1% and oleander seeds by 12.7%.

TABLE – 19

COMPARISON OF PSYCHIATRIC DIAGNOSIS BETWEEN CASES AND CONTROLS

Psychiatric diagnosis	Type			
	Cases(n=50)		Control (n=50)	
No psychiatric diagnosis	31	(62%)	48	(96%)
adjustment disorder	2	(4%)		
alcohol abuse	2	(4%)		
conduct disorder	1	(2%)		
dysthymia	1	(2%)		
severe depressive episode	1	(2%)		
mild depressive episode	5	(10%)	2	(4%)
Moderate depressive episode	7	(14%)		

Among cases, moderate depressive episode was present in 14%, mild depressive episode in 10%, 4% had adjustment disorder and alcohol abuse in 4% each, while 2% had conduct disorder, dysthymia. and severe depressive episode Among controls, 4% had mild depressive episode.

TABLE - 20

COMPARISON OF PRESENCE OF PSYCHIATRIC MORBIDITY BETWEEN CASES AND CONTROLS

Psychiatric morbidity	Cases(n=50)		Controls(n=50)	
Absent	31	(62%)	48	(96%)
Present	19	(38%)	2	(4%)

$\chi^2 = 17.42$ df = 1 P= .000 (significant)

Among cases, 38% had psychiatric morbidity while among controls only 4% had psychiatric morbidity. The difference between the two groups was statistically significant.

TABLE - 21

SEX WISE DISTRIBUTION OF PSYCHIATRIC MORBIDITY AMONG SUICIDE ATTEMPTERS

Psychiatric Morbidity	SEX	
	Female n=35	Male n=15
No	26 (83.9%)	5 (16.1%)
Yes	9 (47.4 %)	10 (52.6%)

$\chi^2 = 7.474$ df = 1 P Value< .001 (significant)

Among female suicide attempters, 9 of the 35 had psychiatric morbidity, while 10 among 15 male suicide attempters had psychiatric morbidity. The difference between the two groups was statistically significant.

TABLE - 22

STATISTICAL DESCRIPTION OF SUICIDE INTENT SCORES AND MADRS SCORES OF SUICIDAL ATTEMPERS

Scale Scores	n	Minimum	Maximum	Mean	Std.Deviation
Suicide Intent Score	50	1	24	13.04	6.124
MADRS Score	50	00	39	13.16	11.54

MADRS- Montgomery Asberg Depression Rating scale

Std Deviation - Standard Deviation

The mean suicide intent score was 13.04 with a standard deviation of 6.124. The mean MADRS score was 13.16 with a standard deviation of 11.54.

TABLE NO - 23

COMPARISON OF PSLES SCORE BETWEEN CASES AND CONTROLS

Scale scores	Type				t	df	p
	Cases (n = 50)		Controls (n =50)				
	Mean	S D	Mean	S D			
PSLES SCORE	191.52	59.78	47.30	50.03	13.08	98	< 0.001

PSLES- Presumptive stressful life event scale, SD - Standard Deviation

The mean PSLES score for preceding one year among cases was 191.52 with a standard deviation of 59.78. The mean PSLES score for preceding one year among controls was 47.30 with a standard deviation of 50.03. When t test was applied, the difference between the two groups was found to be statistically significant.

TABLE - 24

COMPARISON OF PSLES NO BETWEEN CASES AND CONTROLS

Scale scores	Type				t	df	p
	Cases(n = 50)		Controls (n =50)				
	Mean	S D	Mean	S D			
PSLES NO	4.00	1.26	1.00	1.03	13.02	98	< 0.001

PSLES NO - Presumptive stressful life event scale number, SD - Standard Deviation

The mean PSLE number for preceding one year among cases was 4.00 with a standard deviation of 1.26. The mean PSLE number for preceding one year among controls was 1.00 with a standard deviation of 1.03. When t test was applied, the difference between the two groups was found to be statistically significant.

TABLE - 25

COMPARISON OF HOPELESSNESS SCORE BETWEEN CASES AND CONTROLS

SCALE SCORES	TYPE				t	df	p
	Cases(n = 50)		Controls (n =50)				
	Mean	S D	Mean	S D			
Hopelessness score	10.22	4.63	0.56	1.01	14.41	98	< 0.001

SD - Standard Deviation

The mean Hopelessness score among cases was 10.22 with a standard deviation of 4.63. The mean Hopelessness score among controls was 0.56 with a standard deviation of 1.01. When t test was applied, the difference between the two groups was found to be statistically significant.

Statistically significant difference was observed in Psychiatric morbidity, Life events number and score for preceding one year and Hopelessness Score between cases and controls

TABLE - 26

PEARSONS CORRELATION COEFFICIENT WAS CALCULATED BETWEEN SUICIDE INTENT SCORE AND OTHER SCORES OF SUICIDE ATTEMPTERS

Scale scores		Suicide intent Score
PSLES NUMBER	pearsons correlation	0.613**
	p	<0.01
	n	50
PSLES SCORE	pearsons correlation	0.620**
	p	<0.01
	n	50
HOPELESSNESS SCORE	pearsons correlation	0.860**
	p	<0.01
	n	50
MADRS SCORE	pearsons correlation	0.791**
	p	<0.01
	n	50

MADRS- Montgomery Asberg Depression Rating scale

PSLES- Presumptive stressful life event scale

** Correlation is highly significant at 0.01 level (2-tailed).

PSLES score, PSLESnumber, Hopelessness score and MADRS score positively correlate with suicide intent score of suicide attempters.

TABLE - 27

INTRA GROUP ANALYSIS DONE AMONG SUICIDE ATTEMPTERS -PARTIAL CORRELATION COEFFICIENT WAS CALCULATED BETWEEN SUICIDE INTENT SCORE AND HOPELESSNESS SCORE BY CONROLLING MADRS SCORES

Control variable	Variable	Correlation Coefficient	p
MADRS	SIS	0.58	< 0.001
	HS		

When MADRS score was controlled, hopelessness score correlated significantly with suicide intent score.

TABLE - 28

INTRA GROUP ANALYSIS DONE AMONG SUICIDE ATTEMPTERS - PARTIAL CORRELATION COEFFICIENT WAS CALCULATED BETWEEN SUICIDE INTENT SCORE AND MADRS SCORES BY CONROLLING HOPELESSNESS SCORE

Control variable	Variable	Correlation Coefficient	p
HS	SIS	0.18	0.25
	MADRS		

When hopelessness score was controlled, there was no significant correlation between MADRS score and suicide intent score. p=0.25(not significant)

HS –Hopelessness Score
SIS-Suicide intent score
MADRS - Montgomery Asberg Depression Rating scale

TABLE - 29

COMPARISON OF SUICIDE INTENT SCORES OF SUICIDE ATTEMPTERS WITH AND WITH OUT PSYCHIATRIC MORBIDIITY

Suicide Intent score	Psychiatric Morbidity						t	df	p
	No			Yes					
	N	Mean	S D	N	Mean	S D			
	31	9.84	4.13	19	18.26	5.22	6.33	48	< 0.01

SD - Standard Deviation

Suicide intent sores were more in suicide attempters with psychiatric morbidity. The difference was statistically significant.

DISCUSSION

This study was necessitated by the need to evaluate the psychosocial factors of adolescents who underwent treatment for attempted suicide in Government General Hospital in Chennai and to identify the risk factors associated with adolescent suicide attempt with regard to socio demographic details, stressful life events and psychiatric morbidity. Fifty consecutive cases of adolescent suicide attempters admitted in Government General Hospital between October 2005 to February 2006 were recruited. Age and Sex matched controls who were friends and relatives of patients admitted for other illnesses in Government General Hospital, Chennai were recruited for the study.

Cases were evaluated using socio demographic proforma, ICD-10 to arrive at a psychiatric diagnosis, suicide intent scale, presumptive stressful life event scale, hopelessness scale ,Montgomery Asberg Depression Rating scale to evaluate the level of depression, Gupta and Seethi scale for socio economic status. Controls were evaluated using socio demographic proforma, ICD-10, presumptive stressful life event scale and hopelessness scale. Suicide intent scale and Montgomery Asberg Depression Rating scale were not administered to controls.

Socio demographic variables

In our study, out of the 50 cases of adolescent suicide attempters 44(88%) of adolescent were 16 years or above. Attempters below 16 years were 6(12%). In this sample, number of suicide attempters increased steadily with age, main part standing on the threshold of adulthood. The age 15 to 18 years seem to be the period during which suicidal behaviour becomes evident and this findings are accordance with findings of *L.kotila et al.* (1987).

In our study, out of the 50 cases of survivors of adolescent suicide attempters 35 (70%) were females and 15 (30%) were males. Girls out numbered boys in suicide attempt. This finding was similar to studies by *White (1974), Garfinkel et al., (1982). Otto (1972)* and *Keith Howton et al., (1982)*. Indian study by *Sudhirkumar et al. (2000)* have shown equal number of female to male. There seems two likely explanation for the greater number of adolescent girls, the first is that girls may mature and face problems of adulthood, such as sexual relationships earlier than boys and second boys may have alternative outlets for expressing distress, such as aggressive behaviour.

Majority of cases and controls were from urban background and there was no statistically significant association between domicile and suicide attempts(Table4,$p>0.05$).As this study was done in Government General Hospital in Chennai, predominance of urban population is expected. Majority of the cases 60% had high school education ,and 54% controls had high school education (Table 5, $p>0.05$). Students were more in number among cases (20%) and controls(14%).

44(88%) of cases belonged to lower middle socio economic section, and 3(6%) were from very low socioeconomic status. These findings are similar to findings of *White (1974)*, *Morgan* (1975). 35(70%) of controls came from lower middle socio economic section, and 7(14%) were from very low socioeconomic section (Table 8, $p>0.05$). Hypothesis 1 was accepted as there was no statistically significant association between low socioeconomic class and suicide attempts. As this study was conducted in Government General Hospital where people from lower socio economic section attend, these results are expected.

Majority were unmarried among cases(80%) and controls(86%), this result is expected as the study group was between 13-18 years(Table 8, p>0.05). Majority were from nuclear family among both cases (72%) and controls (68%) (Table 9, p>0.05). Hypothesis 2 was accepted as no significant association was found between nuclear family and suicide attempt

History of previous mental illness among cases were 2(4%) and controls were nil. Among cases, two females were on treatment for depression from psychiatrists (Table10, p>0.05). Hypothesis 3 was accepted as there was no statistically significant association between previous history mental illness and suicide attempt

Similarly history of medical illness among cases were 6(12%) and control were 2(4%) and association with suicide attempt was statistically not significant(Table 11, p>0.05). Among cases, two had limb deformity, two had bronchial asthma one had migraine and one had dysmenorrhea. History of substance abuse among cases were 2(4%) and controls were 1(2%) (Table 12, p>0.05). Hypothesis 4 was accepted, as there was no significant association between history of substance abuse and suicide attempt

Family History

Family history of mental illness among cases were 4(8%), two first degree relatives had schizophrenia and one second degree relative had mood disorder. This is in accordance with study done by *Sudhirkumar et al.* (2000). But *Roa.V* (1965) reported 20% cases had family history of mental illness. Family history of mental illness among controls were 3 (6%) (Table 13, p>0.05). Hypothesis 5 was accepted as there was no significant association

between family history of mental illness and attempted suicide Family history of substance abuse among cases was 21(42%) and among controls was 17(34%) (Table14, p>0.05).All of them had history of alcohol abuse. Hypothesis 6 was accepted as there was no significant association between family history of substance abuse and attempted suicide These findings are not in concurrence with study done by *Pfeffer CR et al* (1998), were significant association was found between family history of substance abuse and attempted suicide .

Among cases family history of attempted suicide was 8(16%) and in controls 3(6%) (Table 15, p>0.05). Among cases none had family history of suicide whereas there was present in 8% among controls (Table 16, p>0.05). Hypothesis 7 was accepted as there was no significant association between family history of attempted suicide and suicide with adolescent suicide attempters.

These findings are contrary to findings of *Brent DA et al (1996), Johnson BA etal (1998)* and *Roy.A (1983)* were significantly higher number of family history of suicide were reported in suicide attempters. Getting a reliable family history is at times difficult as social stigma attached to psychiatric disorders may come in the way of getting reliable family history.

Method Used

Most common method used by attempters in the sample are poisoning 47 (94%) and hanging 3 (6%). Common methods adopted in poisoning were tablet overdose 11(23.4%), rat killer poison 9 (19.1%), Oleander seed, organophosphorus, insecticide and Ala liquid. Among tablet over dose Paracetamol,Eption , antihypertensives were the common drugs used.

Self-poisoning is seen as the commonest mode among the Indian population. Oral poisoning with insecticides and pesticides is the commonest mode adopted due to their easy availability**.** Also *Schaffer* (1974) noted overdosage of drugs among 80 - 90% of adolescent suicide attempters.

Two males had consumed alcohol during the attempt. Majority of the cases 46(94%) had made their attempt in their house, 2 (4%) in their work spot and 2 (4%) in remote place. Majority 28(56%) of the cases of the study attributed interpersonal problems to be the main reason for the attempt. Out of the interpersonal problems, problems with parents were 42%, spouse 10% and lover 4%. These findings are in concordance with findings of *Marttunnen MS et al. (1993), Bancroft et al. (1977), Sudhirkumar et al., (2000). Hawton et al. (1982).* Seven persons (14%) had sought advise and communicated their intent before the attempt, but *Hawton etal* (1982) reported in his study that 50% had sought advise, and 25% had sought advise in studies done by *Stenager and Jensen* (1994). History of previous suicide attempt among cases were 4% but studies done by *Hawten et al (*1982) showed 14% to repeat their attempts. None had left suicide notes contrary to study by *Yessler etal,* (1960) where 87% had left suicide notes.

Psychiatric morbidity

Psychiatric morbidity among cases was 38%. Out of which moderate depressive episode was percent in 7(14%), mild depressive episode was present in 5(10%), severe depressive episode in 1 (2%), adjustment disorder 2(4%), alcohol abuse 2(4%), conduct disorder 1(2%) and dysthymia 1(2%)

Among controls 2(4%) had mild depressive disorder Hypothesis 8 was rejected as there was significant association between psychiatric morbidity and suicide attempt (Table 20, $p<0.05$). The results are in concordance with studies done by *Kovac M et al. (1993), Dori GA et al. (1999), Pfeffer et al (1993)* which showed significant presence of mood disorder in suicidal adolescents. Alcohol abuse also was more in suicidal adolescents than controls. Results are in concordance with studies done by *Marttunen et al (1991), Wup et al (2004)* and *Robbin DR et al (1985)*.

Above findings are in contrary to *Hawtan et al. (1982)* and *White (1974)* as they reported that psychiatric diagnosis was very uncommon among adolescent self poisoners and they suggested that psychiatric intervention is rarely required.

Males had more psychiatric morbidity compared to females and it was statistically significant (Table 21 $p<0.05$). These findings are contrary to findings of Olfson et al. 2005 and Hawton et al. 1982.

Mean suicide intent score of the sample was 13.04 with standard deviation of 6.124 .These findings are in concordance with studies done by Sudhirkumar et al. 2000 who reported high suicidal intent in adolescent attempters.

There was a significant association between psychiatric morbidity and suicide intent (Table 29, $p<0.05$), hence hypothesis 12 was rejected.

Life events

Mean of total life events score for previous one year among cases were 191.52 with a standard deviation of 59.78 ,among controls the mean was 47.30 with a standard deviation of 50.30 (Table 23, $p<0.05$). When Pearsons correlation coefficient was caluculated between total life events score and suicidal intent score there was a significant positive correlation($r=0.620$) ($p<0.05$) (Table 26).

Mean stressful life events for previous year for cases were 4.00 with a standard deviation of 1.26 and controls were 1.00 with a standard deviation of 1.03 (Table 24, $p<0.05$). Hypothesis 9 was rejected as there significant association between life events and attempted suicide. The main life events reported by cases were family conflicts in 22% ,financial loss or problem in 13%,broken engagment or love affair in10% and self or family member unemployed in 7%.While in controls 27% did not report any life events,13% reported change of residence and 13% reported illness in family members. Hypothesis 11was rejected as there was significant positive correlation between life events and sucide intent ($r=0.613$) ($p>0.05$) (Table 26).

These findings are in concordance with findings of *Adams et al.* (1994) and *Paykel et al. (1974)* who reported 4 times stressful life events in preceding 6 months in attempters. Presumptive stressful life events and scores correlated significantly with suicide intent. This point to the need for early intervention following major life changes in adolescents.

Hopelessness and Depression

Depression was rated among cases so as to find its correlation with suicide intent. Depression was rated using Montgomery Asberg Depression Rating scale and the mean score was 13.16 with a standard deviation of 11.548 (Table 22). There was a significant positive correlation with suicide intent ($r=0.791$) ($p<0.05$) (Table 26).

Hopelessness was rated using Beck's hopelessness scale and cases had mean hopelessness score of 10.2 with a standard deviation of 4.63 and controls had 0.56 with a standard deviation of 1.01 (Table 25, $p<0.05$). Hypothesis 10 was rejected as there was significant association between hopelessness and suicide attempt. Hypothesis 13 was rejected as there was a significant positive correlation between hopelessness and suicide intent ($r=0.860$) ($p<0.05$) (Table 26).

An intra group analysis was done among suicide attempters and partial correlation was calculated to find out which out of hopelessness and depression correlated significantly with suicide intent. When depression scores were controlled hopelessness was found to correlate significantly with suicide intent (Table 27, 28). These findings are similar to findings of *Dyer et al. (1987)*.

The implication of this finding for therapy of suicidal individuals are important. The cognitive and attitudinal phenomena of hopelessness are important target symptoms in treating suicidal individuals. The clinician is more likely to "get a hold" of the situation by targeting on the patient's hopelessness rather than by dealing with his overt self destructive acts. By focusing on reduction of a patient's hopelessness, the professional may also be able to alleviate suicidal crises more effectively.

SUMMARY AND CONCLUSION

Current study had a sample of 50 cases of adolescent suicide attempters admitted in Government General Hospital, Chennai and same number of age and sex matched controls, who were relatives and friends of other patients admitted for other illness in Government General Hospital, Chennai. Detailed evaluation was done using Semi structured proforma, Suicide intent scale, Beck's hopelessness scale, presumptive stressful life event scale, Montgomery Aspergs depression rating scale and 1CD-10 to arrive at psychiatry diagnosis.

In summing up it can be said that this study concurs with finding of other studies in regard to predominance of adolescents in age between 16-18 years and females about 70% in the adolescent suicide attempters. There were more representative of single unemployed adolescent coming from lower middle socio-economic sections, belonging to nuclear family and urban background. There was no significant association between above factors and attempted suicide. Previous history of mental illness was more in cases than controls but not significantly associated with attempted suicide. Family history of mental illness and substance was more in cases than controls but were not significant. Contrary to earlier studies family history of suicide was more in controls than cases.

Tablet overdose was most common method employed by many attempters. Most common reason attributed for the suicide attempt was interpersonal problems with parents and the findings are similar to earlier studies. Seven people sought advice before the attempt. None had left suicide notes. Two persons had repeated attempts. Two males had consumed alcohol during the attempt

38% of the cases were diagnosed to have psychiatric disorder, depressive episode was the most common diagnosis followed by alcohol abuse, adjustment disorder, conduct disorder. Among controls 2 had mild depressive disorder. There was a strong association between psychiatric morbidity and attempted suicide. Life events and total score in preceding one year were more in cases than controls and significantly associated with attempted suicide. In cases family conflict, financial loss or problem and broken love affair were the main stressors. Among controls many did not report any stressors. Hopelessness score was more in cases than controls and there was a significant association with suicide attempt. Suicide intent was more among persons with psychiatric morbidity. Suicidal intent significantly correlated with high levels of stress score, life events, hopelessness, and depression. When partial correlation coefficient was calculated hopelessness correlated more significantly with suicide intent than depression.

Adolescent suicide attempters, when compared with non attempters, have more psychiatric morbidity, more stressors in the fields of family conflict and interpersonal relationship. These point to the need of early intervention following major life changes, in fields of family conflict and interpersonal relationship. These point to the need of early intervention following major life changes. Persons experiencing higher rates of cumulative stressful life events will be the target population for separate monitoring to identify suicidal behaviour. Psychiatric morbidity should be taken into consideration when assessing and in management of adolescent suicide attempters.

LIMITATIONS

- It is likely that patients from high and middle socioeconomic status would prefer private hospitals, for the fear of police enquiry and adverse publicity. This may account for the predominance of the lower socioeconomic section in this sample. This bias would be inevitable in any Government Hospital study ,so we must be cautious in generalizing these results.

- Sample of 50 suicide attempters is a small number and we must be cautious in generalizing the results to the community

- .An instrument like SCAN (Schedules for clinical assessment in neuropsychiatry) would have helped the researcher to arrive at a psychiatric diagnosis in a more objective manner

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APPENDIX-I

SEMI STRUCTURED PROFORMA

Case No. IP No.

Name

Age

Sex: Male/ Female

Address

Location : Urban/ Rural

Education: Uneducated/ Primary School/ Middle/ High School/ Degree

Occupation: Student/ Unskilled / Semiskilled/ Skilled/ Not working.

Socio economic: Very low/ Lower middle/ middle/ upper middle/ very high.

Marital Status: Single/ Married/ Separated

Family type: Alone/ Nuclear/ Joint.

Previous history of mental illness Yes/No

History of medical Illness Yes/No

History of Substance abuse Yes/No

Family history of Mental Illness Yes/No

Faculty history of Substance above Yes/No

Family history of Attempted suicide Yes/No

Family History Suicide Yes/No

DETAILS OF ATTEMPT

Date

Time

Site: House/ Workspot/ Other places

Method Used: Poisoning / Hanging/ Burning/ Self Injury.

Substance used

Associated with Alcohol Use

Reason for Attempt

1. Physical Problem

2. Psychological problems

3. Life events

4. Financial Problem

5. Inter personal problems.

Help / Advise Sought Before Attempt Yes/No

Previous Attempt Yes/No

1. Number of Attempts

APPENDIX-II

SUICIDE INTENT SCALE

Name Date

I. Objective Circumstances Related to Suicide Attempt

1. Isolation

0. Somebody present
1. Somebody nearby, on in visual or vocal contact
2. No one nearby or in visual or vocal contact

2. Timing

0. Intervention is probable
1. Intervention is not likely
2. Intervention is highly unlikely

3. Precautions against discovery / intervention

0. No precautions
1. Passive precautions (as avoiding others but doing nothing to prevent their intervention: alone in room with unlocked door)
2. Active precautions (as locked door)

4. Acting to get help during after attempt

0. Notified potential helper regarding attempt
1. Contracted but did not specifically notify potential helper regarding attempt
2. Did not contact or notify potential helper

5. Final acts in anticipation of death (e.g. will, gifts, insurance)

0. None
1. Thought about or made some arrangements
2. Made definite plans or completed arrangements

6. Active preparation for attempt

0. None
1. Minimal to moderate
2. Extensive

7. Suicidal note

0. Absence of note
1. Note written, but torn up : note thought about
2. Presence of note

8. Overt communication of intent before the attempt

0. Note
1. Equivocal communication
2. Unequivocal communication

II. Self - Report

9. Alleged purpose of attempt

0. To manipulate environment, get attention, revenge
1. Components of "0" and "2"
2. To escape, surcease, solve problems

10. Expectation of fatality

0. Thought that death was unlikely
1. Thought that death was possible but not probable
2. Thought that death was probable or certain

11. Conception of method's lethality

0. Did less to self than he thought would be lethal
1. Wasn't sure if what he did would be lethal
2. Equaled or exceeded what he thought would be lethal

12. Seriousness of attempt

0. Did not seriously attempt to end life
1. Uncertain about seriousness to end life
2. Seriously attempted to end life

13. Attitude toward living/dying

0. Did not want to die
1. Components of "0" and "2"
2. Wanted to die

14. Conception of medical rescuability

0. Thought that death would be unlikely if he received medical attention.
1. Was uncertain whether death could be averted by medical attention
2. Was certain of death even if he received medical attention

15. Degree of premediation

0. None; impulsive
1. Suicide contemplated for three hours or less prior to attempt
2. Suicide contemplated for more than three hours prior to attempt

APPENDIX-III

PRESUMPTIVE STRESSFUL LIFE EVENTS SCALE

(PSLES)

Rank No.	Life events	Mean Stress Score
1	Going on pleasure trip or pilgrimage	20
2	Wife begins or stops work	25
3	Change in eating habits	27
4	Change in social activities	28
5	Reduction in number of family functions	29
6	Gain of new family member	30
7	Birth of daughter	30
8	Change in sleeping habits	33
9	Change in working conditions or transfer	33
10	Retirement	35
11	Begin or end schooling	36
12	Outstanding personal achievement	37
13	Change or expansion of business	37
14	Change of residence	39
15	Unfulfilled commitments	40
16	Trouble with neighbour	40
17	Getting married or engaged	43
18	Appearing for an examination or interview	43
19	Failure in examination	43
20	Death of pet	44
21	Major purchase or construction of house	46
22	Break0up with friend	47
23	Family conflict	47

24	Minor violation of law	48
25	Marriage of daughter or dependent sister	49
26	Large loan	49
27	Lack of son	51
28	Self or family member unemployed	51
29	Sexual problems	51
30	Conflict over dowry (self or spouse)	51
31	Pregnancy of wife (wanted or unwanted)	52
32	Prophecy of astrologer or palmist, etc	52
33	Trouble at work with colleagues, superior or subordinates	52
34	Illness of family member	52
35	Financial loss or problems	54
36	Son of daughter leaving home	55
37	Major personal illness or injury	56
38	Broken engagement or love affair	57
39	Conflict with in-laws (other than dowry)	57
40	Excessive alcohol or drug abuse by family member	58
41	Robbery or theft	59
42	Death of friend	60
43	Property or crop damaged	61
44	Marital conflict;	64
45	Death of close family member	66
46	Lack of child	67
47	Detention in jail of self or close family member	72
48	Suspension or dismissal from job	76
49	Marital Separation/ divorce	77
50	Extra-marital relation of spouse	80
51	Death of spouse	95

APPENDIX-IV

HOPELESSNESS SCALE

Name Date

This questionnaire consists of a list of 20 statements (sentences).

Please read the statements carefully one by one.

If the statement describes your attitude for the past week, including today, write TRUE next to it. If the statement is false for you, write FALSE next to it. You may simply write T for TRUE and F for FALSE.

Please be sure to read each sentence

A. I look forward to the future with hope and enthusiasm.

B. I might as well give up because there's nothing I can do about making things better for myself.

C. When things are going badly, I am helped by knowing that they can't stay that way forever.

D. I can't imagine what my life would be like in 10 years.

E. I have enough time to accomplish the things I most want to do.

F. In the future I expect to succeed in what concerns me most.

G. My future seems dark to me.

H. I happen to be particularly lucky and I expect to get more of the good things in life than the average person.

I. I just don't get the breaks, and there's no reason to believe I will in the future.

J. My past experiences have prepared me well for my future.

K. All I can see ahead of me is unpleasantness rather than pleasantness.

L. I don't expect to get what I really what.

M. When I look ahead to the future I expect I will be happier than I am now.

N. Things just won't work out the way I want them to.

O. I have great faith in the future.

P. I never get what I want so it's foolish to want anything.

Q. It is very unlikely that I will get any real satisfaction in the future.

R. The future seems vague and uncertain to me.

S. I can look forward to more good times than bad times.

T. There's no use in really trying to get something I want because I probably wont.

Scoring

For every statement a score "1" is assigned if the patient's response agrees with the key (pessimistic answer). The maximum pessimistic score for feelings about the future is "20". NonMatching responses are scored "0" (optimistic answer).

Scoring Key

(1)	F	(6)	F	(11)	T	(16)	T
(2)	T	(7)	T	(12)	T	(17)	T
(3)	F	(8)	F	(13)	F	(18)	T
(4)	T	(9)	T	(14)	T	(19)	F
(5)	F	(10)	F	(15)	F	(2)	T

APPENDIX-V

MONTGOMERY - ASBERG DEPRESSION RATING SCALE (MADRS)

1. Apparent Sadness

Representing despondency, gloom, and despair (more than just ordinary transient low spirits), reflected in speech, facial expression, and posture. Rate by depth and inability to brighten up.

0 No Sadness
1
2 Looks dispirited but does brighten up without difficulty
3
4 Appears sand and unhappy most of the time
5
6 Looks miserable all the time; extremely despondent

2. Reported Sadness

Representing reports of depressed mood, regardless of whether it is reflected in appearance or not. Includes low spirits, despondency, or the feeling of being beyond help and without hope. Rate according to intensity, duration, and the extent to which the mood is reported to be influenced by events.

0 Occasional sadness in keeping with the circumstances
1
2 Sad or low but brightens up without difficulty
3
4 Pervasive feelings of sadness or gloominess. The mood is still influenced by external circumstances.
5
6 Continuous or unvarying sadness, misery, of despondency

3. Inner Tension

Representing feelings of ill-discomfort edginess inner turmoil mental tension mounting to either panic, dread or anguish. Rate according to intensity, frequency, derating and the extent of reassurance called for.

0 Placid: only fleeting inner tension
1
2 Occasionally feelings of edginess and ill-define discomfit
3
4 Continuous feelings of inner tension or intermittent panic which the patient can only master with some difficulty
5
6 Unrelenting dread or anguish: overwhelming panic

4. Reduced Sleep

Representing the experience of reduced duration or depth of sleep compared to the subject's own normal pattern when well.

0 Sleeps as usual

1

2 Slight difficulty dropping off to sleep or slightly reduced light or fitful sleep.

3

4 Sleep reduced or broken by at least two hours

5

6 Less than two or three hours sleep

5. Reduced Appetite

Representing the feeling of a loss of appetite compared with when well Rate by loss of desire for food or the need to force oneself to eat.

0 Normal or increased appetite

1

2 Slightly reduced appetite

3

4 No appetite: food is tasteless

5

6 Needs persuasion to eat at all

6. Concentration Difficulties

Representing difficulties in collecting one's thoughts mounting to incapacitating lack of concentration. Rate according to intensity, frequency and degree of incapacity produced.

0 No difficulties in concentrating

1

2 Occasional difficulties in collecting one's thoughts

3

4 Difficulties in concentrating and sustaining through which reduced ability to read or hold a conversation.

5

6 Unable to read or converse without great difficulty.

7. Lassitude

Representing a difficulty getting started or slowness initiating and performing everyday activities.

0 Hardly and difficulty in getting started: no sluggishness

1

2 Difficulties in starting activities

3

4 Difficulties in starting simple routine actives which are carried out with effort

5

6 Complete lassitude: unable to do anything without help.

8. Inability to Feel

Representing the subjective experience of reduced interest in the surroundings, or activities that normally give pleasure. The ability to react with adequate emotion to circumstance or people is reduced.

0 Normal interest in the surroundings and in other people

1

2 Reduced ability to enjoy usual interests

3

4 Loss of interest in the surroundings; loss of feelings for friends and acquaintances

5

6 The experience of being emotionally paralyzed; inability to feel anger, grief, or pleasure; and a complete or even painful failure to feel for close relatives and friends.

9. Pessimistic Thoughts

Representing thoughts of guilt, inferiority, self-reproach, sinfulness, remorse and ruin

0 No pessimistic thoughts

1

2 Fluctuating ideas of failure self-reproach, or self - depreciation

3

4 Persistent self-accusations, or definite but still rational ideas of guilt or sin; increasingly pessimistic about the future

5

6 Delusions of ruin, morse, or unredeemable sin; self-accusations which are absurd and unshakable

10. Suicidal Thoughts

Representing the feeling that life is not worth living, that natural dealt would be welcome, suicidal thoughts, and preparations for suicide. Suicidal attempts should not, in themselves, influence the rating.

0 Enjoys life or takes it as it comes

1

2 Weary of life only fleeting suicidal thoughts

3

4 Probably better off dead; suicidal thoughts are common, and suicide is considered as a possible solution, but without specific plans or intentions

5

6 Explicit plans for suicide when there is an opportunity; active preparations or suicide

APPENDIX-VI

SOCIO-ECONOMIC SCALE FOR URBAN POPULATION (GUPTA AND SETHI 1978)

Scoring indicators

1.	educational score:	(a)	score of self for adults
2.	income score	(b)	score of the guardian for children upto 20 years. total monthly income of the family members living together.
3.	occupational score	it takes into consideration financial dependency as well as marital status of the individual.	

A. unmarried subjects (including windowed & separated)

1. working individual - occupational score of the self
2. 2 neither working nor dependent - 50% of the sum of educational and income scores.
3. non-working dependent - 50 of the occupational score of the guardian upon whom mainly dependent.

B. married subjects

1. both spouses non-working (dependent) - 50% of the occupational score of the guardian upon whom mainly dependent.
2. both spouses non-working but not dependent - 50% of the sum of the scores of education and income.
3. only one spouse working - score of the working spouse
4. both spouse working - score of the spouse having higher occupational position.

Scoring manual

Serial no	Educational categories	Score
1.	upto 5th class	20
2.	less than high school	40
3.	high school	60
4.	intermediate	80
5.	gradation (excluding professional subjects)	100
6.	post graduation excluding professional subjects	120
7.	postgraduate diploma in non professional subjects, B.E.B Tech., A.Arch, M.B.B.S, B.I.M.S, M.D.2; B.D.S. Lt.B.	140
8.	Post graduate diploma or degree in professional subjects	160
9.	D.Litt.D.Sc, or equivalent, award of membership Or fellowship from professional institutions of International recognition	180
10.	national or international award for the academic or scientific achievements` engineering, medicine and law	200
Serial no	income	score
1.	upto Rs.250	20
2.	Rs.251-500	40

3.	Rs.500-750	60
4.	Rs.751-1000	80
5.	Rs.1001-1500	100
6.	Rs.1501 - 2500	120
7.	Rs.2501 - 5000	140
8.	Rs. 5001-10,000	160
9.	Rs.10,001-15,000	180
10.	above Rs.15,000	200
s.no.	occupational groups	score
1.	semi-skilled or unskilled	
1.1	semi-skilled or unskilled workers (e.g. barber, shoemaker, gardener, and others of low skilled or unskilled labour)	40
1.2	skilled workers (driver, painter, mechanics, printers, watch repairers, typists, plumbers and equivalent)	60
1.3	skilled worker of higher rank or having special training	80
2.	office work and equivalent	
2.1	peon, chowkidar, constable or equivalent	40
2.2	junior grade office assistant, dispatcher, daftari, head constable or equivalent	60
2.3	senior grade office assistant, sub-inspector or lower grade inspector (e.g. sanitary inspector, supervisor in private or public organizations)	80
3.	teaching jobs	
3.1	teachers of primary and junior high school	60
3.2	teachers of high school or intermediate (excluding principal of intermediate college)	80
3.3	lecturers and readers in the university or equivalent: principals of intermediate college	100
3.4	university professors and principals of degree or post graduate colleges	120
3.5	eminent professor having national or international recognition	140
4.	business;	
4.1	petty businessmen and small shop-keepers	60
4.2	middle class businessmen	80
4.3	businessmen or industrialist of upper strata	100
4.4	eminent businessman in the town or city	120
4.5	eminent industrialist in the state or country	160
5.	professional jobs (medicine, law and engineering	
5.1	individuals in the profession of medicine, law or technology having no recognized training	60
5.2	qualified professionals having no specialization	80
5.3	specialist in the professional jobs	100
5.4	senior grade specialists	120
5.5	eminent professionalists in the field	160
6.	semiprofessional	

6.1	junior grade technical or scientific assistance: lower grade semi-professionals (pharmacists and nursing staff)	60
6.2	senior grade technical or scientific assistants and the semi professionals of average grade (pshcyologiests, statisticians, social workers, surveyors, etc.)	80
6.3	scientists employed as class 1 and 2 in the central Govt. or equivalent employees in other organizations, assistant or joint director or vice-principals in technical institutions	100
6.4	directors and principals in technical institutions	120
6.5	directors of highly prestigious technical institutions and/or scientists of international recognitions	160
7.	artists and literary men	
7.1	low grade artists, writers, religious, pundits, and smiliar other having little expertise	60
7.2	individuals of above category having considerable expertise	80
7.3	expers of above categories having high social image	100
7.4	most eminent writers, poets, majicians religious figures, artists and across	120
8.	agriculture; (this category was included because some urban residents may have agriculture or orcharge as their main source of livelihood).	
8.1	small size holding or agriculture or orchard which can hardly meet the basic needs of a family	60
8.2	medium size holding of agriculture or orchard sufficient for average middle class family in an urban set-up	80
8.3	large size holding of the above nature which can comfortably meet the requirements of an upper middle class family	100
8.4	agriculturist or fruit grower of a very large size holding	120
9.	administrative service	
9.1	office superintendents, section officer, inspector (e.g. police, sales tax, income tax act) junior P.C.S. officers including tahsildar and equivalent	100
9.2	I.A.S. and equivalent services (e.g. I.P.S, I.F.S., I.S.S. or Senior P.C.S)	120
9.3	senior I.A.S and equivalent vide-chancellor, director - general, heads of prestigious institutions	140
9.4	....	160
9.5	....	180
9.6	....	200
10.	judicial service	
10.1	munisif, honorary magistrate of equivalent	100
10.2	district and session judge	120
10.3	judges of high court	140
10.4	....	160
10.5	....	180
10.6	....	200
11.	political leaders,	

11.1	leaders of district level (block pramukh, corporator, and equivalent)	120
11.2	M.P.,M.L.,A,M.L.C. district chairman and city mayor	
11.3	mayor of metropolis, state ministers and union deputy ministers and other political leaders of equal level	140
11.4	....	180
11.5	....	200

assessment of social status of defence personnel posess serious difficulties in view of their unique position in terms of emoluments, privileges and administrative powers. Since their status evaluation in terms of education, occupation and income is likely to be considerably controversial, a global categorization on the 10 points scale may be applicable to some extent.

1. criteria of assigning scores of 160, 180 and 200 in section 9, 10 and 11 have not been specified on account of controversial issues involved in it. Assignment of these scores, though rarely required, has to be made in accordance with the high rank of the individual at the political, administrative or judicial level.

2. persons engaged in anti-social professions (beggars, prostitutes, criminals, etc.) would be assigned the lowest score (20).

3. assignment of a score of more than 100 in various occupational sections should be done after having collected sufficient evidence of the individuals positions in his profession.

4. assignment of scores for various occupational groups does not necessarily relate to the official or legal position of the individuals.

5. persons engaged in more than one type of occupational relate to the category having a higher score.

Social status categories

On the basis of sum scores of the three variables, an individuals status can be ascertained from the following table:-

Status	category	total score	major social class and its description
1.	476 & above	very high	individuals of most prestigious social positions, mainly consisting of top-most businessman, politicians, administrators, scientists, professional men, or highly distinguished persons in other field
2.	426-475		
3.	376-425	upper middle	individuals of above categories having obviously higher social position but not belonging to other topmost category in their specialities. Their standard of living is definitely of a superior class and such they would constitute only a small percentage of our urban society
4.	326-375	middle	

5.	276-325	middle class	individuals of average social class belonging to different occupational groups. Their standard of different occupational groups. Their standard of living is quite satisfactory although inferior to the upper middle class. Their individual scores on the three variables are likely to be in the range of 80-
6.	226-275		
7.176-225	lower middle		100 majority or urban subjects are likely to belong to this category their substandard of living makes their existence in urban society a marginal one. Their individual scores on the three variables range between 60 to 80.
8.	126-175		
9.	76-125	very low	these individuals are characterized with lower standard of living. Their educational, occupational as well as financial position is almost at the lowest level and as such they belong to the most disadvantages class having very little to survive.